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INVESTING IN TIMBERLAND: ANOTHER MEANS OF DIVERSIFICATION

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with contributions from Charles Gabriel

Investing in Timberland: Another Means of Diversification

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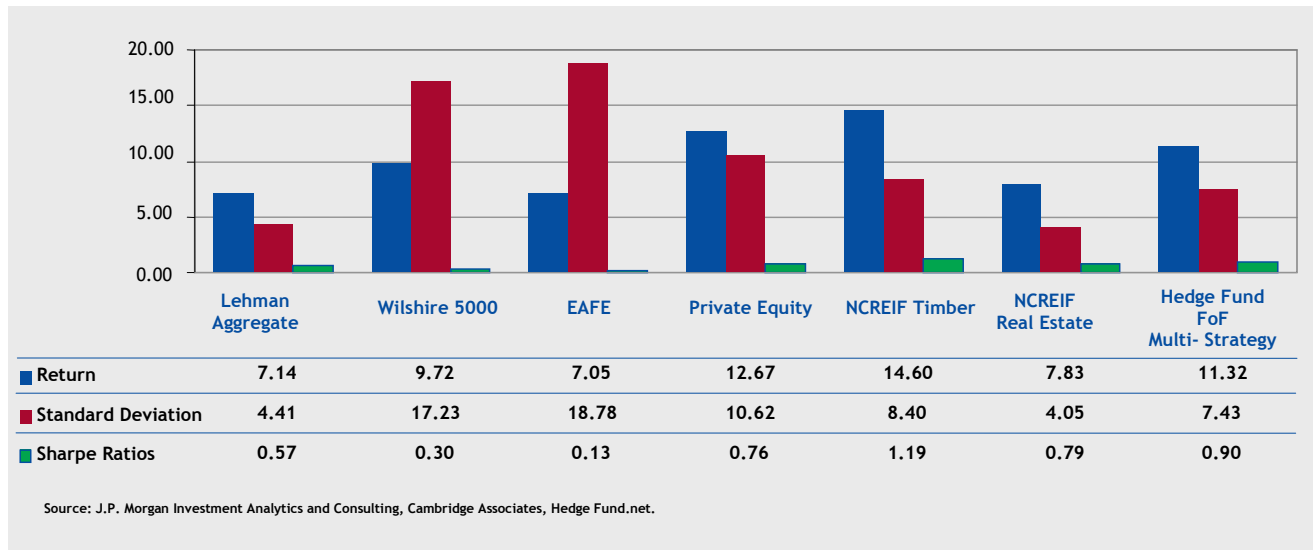
By Jeff Mortimer, CFA, with contributions by Charles Gabriel
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EXECUTIVE SUMMARY

Asset managers looking to boost returns, diversify, and meet clients' interest in green investments may want to look at timberland, according to an analysis of the asset class's performance over the past 22 years conducted by J.P. Morgan Investment Analytics and Consulting, a division of J.P. Morgan Worldwide Securities Services. The study showed that timberland has provided an annualized return of 14.60% as well as impressive diversification benefits.

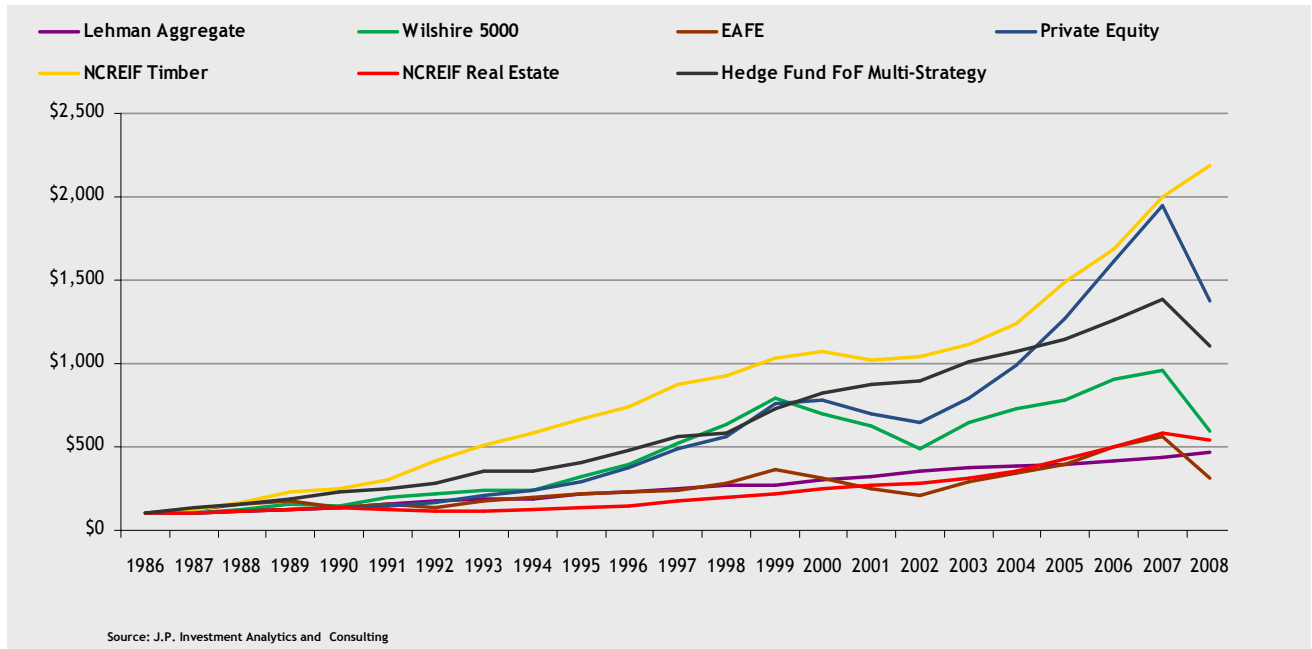
An allocation to timberland aids in creating a more efficient portfolio while providing a better match for longer term pension liabilities or the long-term horizon of endowments and foundations. Timberland falls within the alternative asset class and, like private equity and real estate, provides an excellent complement to the traditional asset classes of equity and fixed income. From a portfolio management standpoint, timberland provides reduced volatility, superior risk-adjusted returns as measured by Sharpe Ratio, and low to negative correlation with other asset classes (see Exhibit 1).

Exhibit 1 – Asset Class Comparison (1987 - 2008)



Timberland correlates highly with inflation and is therefore an effective investment for preserving capital. It has outperformed other commodities in both high and low inflationary environments. As Exhibit 2 indicates, timberland, as represented by the National Council of Real Estate Investment Fiduciaries (NCREIF) Timberland Index, ranks first in the growth of \$100 since January 1987. A \$100 investment back then would have grown to \$2,190 through December 2008.

Exhibit 2 – Index Cumulative Return – Growth of \$100 (Base = \$100 as of Jan. 1987)



BACKGROUND

Prior to 1980, most timberland properties were owned by integrated forest product companies. These firms, such as International Paper, Weyerhaeuser and Georgia Pacific, not only owned the physical land and timber, but also the processing facilities - sawmills, paper mills and pulp mills. As a result of tax law changes and prodding from Wall Street to become more efficient, forest product companies began to sell their timberland properties and focus on their core operations. The passage of ERISA in 1973 gave pension funds the green light to diversify their investments out of traditional fixed income assets into equities and alternative investments. Institutional interest in timber started to gain traction during the 1980s once new organizations emerged to manage the mass of timber investments now on the market. These firms, known as timber investment management organizations or TIMOs, became a significant factor in enabling investor access to “pure” plays in timber.

There are approximately 20 TIMOs in existence today in the United States, and they control roughly \$50 billion in timberland properties. TIMOs are usually structured as public or private REITs, master limited partnerships, limited liability companies or limited partnerships.

Institutions invest with TIMOs via commingled vehicles or through a separate account, depending on the size of the investment. In the case of a commingled fund, a group of investors is formed and a fund is launched. Capital is called as investments are made. Unlike private equity, timberland investments may generate immediate cash flows in the early years.

Investments in timber are most often characterized by product and location. From a product standpoint, there are hardwoods and softwoods. Hardwoods are deciduous trees that lose their leaves during the autumn season. These trees tend to grow in the naturally regenerating forests of the northeastern and northwestern United States. Hardwoods cater to higher niche markets, such as flooring and furniture. Softwoods are evergreens and

typically grow in the southern portion of the U.S. in plantation settings. The majority of large timberland owners, both in the U.S. and internationally, focus on plantation softwoods. The end use of softwoods is structural lumber.

Categorizing timber by location typically begins by differentiating investments based on geography - U.S. vs. international. Russia, South Africa, and Central and South America are classified as developing markets. Unlike relatively low risk investments in North America, political and currency risks emerge when dealing in these markets.

SOURCES OF TIMBERLAND RETURNS

In order to understand a timberland investment, it is important to understand the fundamental components that comprise returns. Timberland returns are driven by the following three factors.

The first factor is biological tree growth. Timber is a renewable resource and, if managed well, will increase in value as it matures. Trees not only grow in volume, but they also turn into higher value products as they grow. This non-financial source of return is unique to the timberland asset class in that growth occurs regardless of macroeconomic conditions or financial market performance. There are not many assets or investments that can make this claim. According to research compiled by the International Woodland Company (IWC), biological tree growth accounts for approximately 65%-75% of the timberland return.

The second factor is timber price change due to macroeconomic factors such as population growth, construction activity, interest rates and the overall level of economic activity. Unlike most other commodities, timber does not need to be harvested at the end of a growing season. If the price of timber is down, it can be "stored on the stump" and will continue to grow and increase in value. It does not cost extra to store since warehousing costs do not enter into the equation. By taking advantage of positive market conditions, management can maximize the return from the investment, which in turn contributes to lower volatility. IWC estimates that timber price change accounts for approximately 25%-30% of the timberland return.

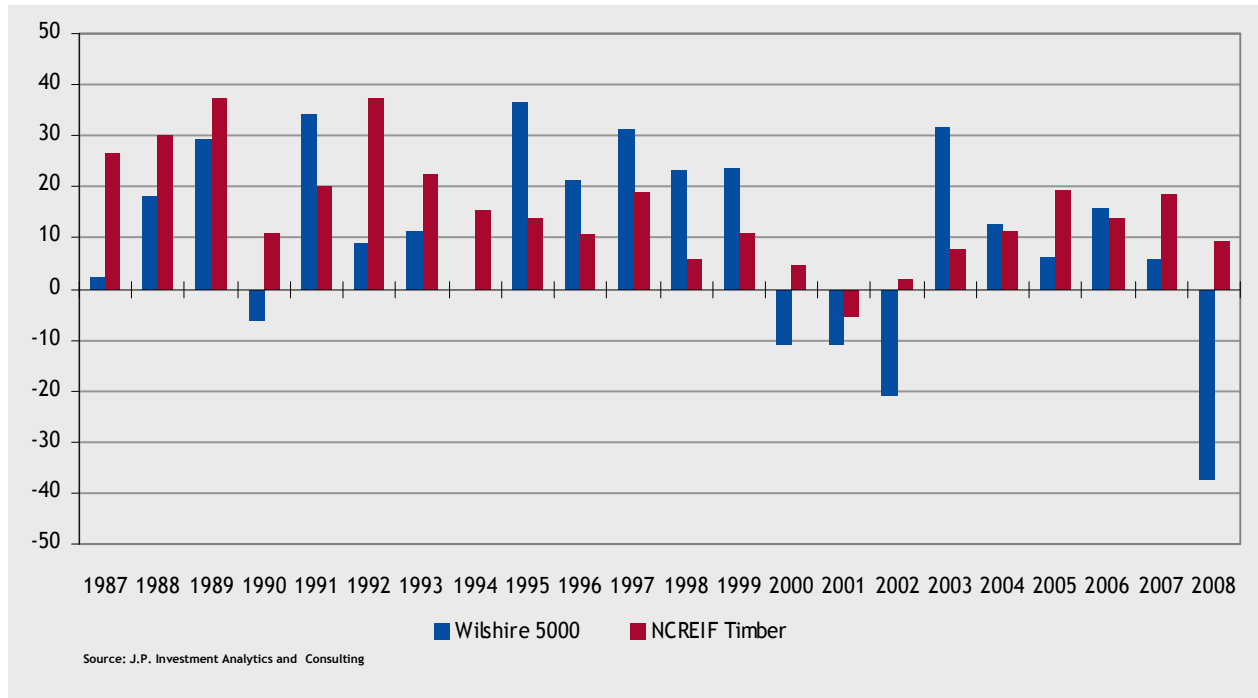
The third factor is changes in land value. Most often, the value of the land represents a very small portion (2%-5%) of the total timberland investment value, so it typically contributes least to timberland return. Land value is based on more of a supply-demand dynamic than is timber.

An additional but non-fundamental timberland return source includes easements. Timber or conservation-related easements are financial agreements designed to keep a portion of a forest untouched. For example, a conservation easement results in a property owner transferring some ownership rights to a government agency or non-profit land trust in return for cash or tax benefits.

LOW VOLATILITY

In relation to timberland's rate of return, the volatility is low. As noted earlier, the low volatility is attributable to biological tree growth. When timberland is combined into a diversified portfolio, returns tend to smooth over time, thereby reducing the overall portfolio's risk level. Exhibit 3 shows the volatility in returns from a broad based U.S. equity index (Wilshire 5000) and the NCREIF Timberland Index. The magnitude of positive bars is similar between the two benchmarks, but the magnitude of negative bars is greater for the broad-based U.S. equity index.

Exhibit 3 – Annual Performance Returns (1987 - 2008)



DIVERSIFICATION BENEFITS

In addition to attractive risk-adjusted returns and low volatility, timberland investments enjoy low correlations with other asset classes. Combining timberland into a well diversified portfolio leads to a more efficient portfolio (higher return, lower risk). As shown in Exhibit 4, there is a slight negative correlation between timberland returns and inflation. This should not be surprising since inflation has been trending downward for much of the period under review. However, if longer time periods are reviewed, there is clearly a positive correlation to inflation. Therefore, this indicates to a certain extent that timberland investments provide a hedge against inflation.

Exhibit 4 – Correlation between U.S. Timberland and Other Asset Classes (1987 - 2008)

	NCREIF Timber	Lehman Aggregate	Wilshire 5000	EAFE	Private Equity	NCREIF Real Estate	Hedge Fund FoF Multi-Strategy	CPI
NCREIF Timber	1.00							
Lehman Aggregate	0.13	1.00						
Wilshire 5000	0.06	-0.13	1.00					
EAFE	0.06	-0.13	0.78	1.00				
Private Equity	0.24	-0.20	0.68	0.59	1.00			
NCREIF Real Estate	-0.14	-0.19	0.17	0.24	0.48	1.00		
Hedge Fund FoF Multi-Strategy	0.19	-0.08	0.51	0.42	0.56	0.17	1.00	
CPI	-0.07	-0.24	0.07	-0.01	0.22	0.28	0.36	1.00

Source: J.P. Investment Analytics and Consulting

RISKS

Despite favorable return and diversification benefits of timberland investments, there are still risks to consider.

First, there are economic risks since pulp and lumber prices are impacted by the laws of supply and demand, as well as cyclical and seasonal fluctuations. For example, if the economy is in a major downturn or recession, timber demand for new and existing home construction will slow, thus providing downward pressure on lumber prices. This risk is somewhat muted because of the ability to “store on the stump” and harvest when prices trend upward. TIMOs that are structured as private REITs can clearly take advantage of this by adopting a long-term investment approach. On the other hand, publicly structured REITs cannot fully take advantage because they are managing to dividend targets. By definition, publicly traded REITs are required to pay out approximately 90% of their income each year.

Second, there are physical risks, including fire, weather, insects and disease. These risks vary to a large extent across geographic regions and climates. Surprisingly, the total loss for managed forests in the United States is fairly low - less than one-half of 1% per year.

Third, there is risk due to the lack of liquidity. Timberland is a relatively illiquid investment and is therefore not efficiently priced in the marketplace. A major concern for investors is the risk of overestimating inventory and future growth from a piece of land. The fact that typical investments can exceed ten-year investment horizons highlights the importance of the due diligence process and proper pricing of properties.

Fourth, there is risk due to environmental action. For example, in the early 1990s, the United States government placed certain harvesting restrictions on timberland in an effort to protect threatened or endangered species. Environmental restrictions - as well as the loss of land to development pressures - will reduce the availability of global timberland.

CONCLUSION

In our view, institutional investors should consider an allocation to timberland. Despite the potential risks, timberland provides traditional equity returns with fixed income volatility. The diversification benefits are equally impressive.

The focus of most plan sponsors today is on the funded status of their pension plans. Timberland funds typically require a ten to fifteen year investment horizon, which makes them an attractive asset to match the long-term nature of pension liabilities and endowment and foundation spending requirements.

Future demand for timber is projected to be favorable due to population growth and improved living standards worldwide. Timberland supply, on the other hand, is finite, thereby preventing overcapacity in the market. This demand/supply imbalance would appear to provide pricing support for the foreseeable future.

ABOUT JEFF MORTIMER



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Jeff Mortimer is a Vice President and Senior Consultant within the J.P. Morgan Investment Analytics & Consulting group. Mr. Mortimer is responsible for providing analytical and consulting services in the areas of analytics and attribution, ex-ante risk, and investment manager analysis and universe comparison. He is a specialist in Fixed Income attribution, analytics, and manager searches, and has worked extensively with both Investment Managers and public and corporate Pensions.

Mr. Mortimer has been with J.P. Morgan for 17 years, and with the Investment Analytics & Consulting group for 8 years. He is a former Vice President at Goldman Sachs, where he served as a Relationship Manager for an Institutional client base consisting of Pension, Corporate Cash and Central Bank clients. In past positions at J.P. Morgan, Mr. Mortimer was responsible for developing compliance programs for new and existing asset management clients.

Mr. Mortimer earned a BA in Management from Hartwick College and an MBA in Finance & Investments from Adelphi University. He is a Chartered Financial Analyst, and a member of the New York Society of Security Analysts (NYSSA) as well as the Chartered Financial Analyst Institute.

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